such as a neural-network paradigm, a statistical paradigm, or decision tree." (see col 8, line 18 – 21) There is no mentioning of clustering the data. Furthermore, there is no suggestion for clustering of data in the portion noted by the Examiner at column 8, line 61. The section of the '411 pointed to by the examiner fairly suggests using the model to split the records into three groups but there is no mention of clustering the data and then using a clustering model produced by such clustering to score or evaluate other data for use in a marketing campaign. For these reasons claim 1 is neither shown nor suggested by the reference used to reject this claim and is patentable. Claims 2 – 17, 19 and 20 depend from allowable claim 1 and are also allowable.

Claim 21 features a method of personalizing marketing resources including providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is provided that correlates observed characteristics of each one of a set of users with a set of adaptable marketing features. The characteristics include at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences. A data mining engine is trained with a set of training data from the user data base by clustering the users in the database into segments of users with similar characteristics. A set of user attributes are input to the data mining engine. These attributes are one of: (a) a particular user, or (b) a particular group of users. The data mining engine produces a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes .

The comments mentioned above with regard to claim 1 are also applicable to claim 21. Claim 21 constitutes the combination of claim 30 with claim 21 as filed. Claim 30 was rejected based on the teaching of the Thearling '411 patent discussion at column 8, lines 63 – column 9 line 8. As discussed previously this portion of the patent does not relate to clustering of data to provide a data mining model which can then be used to identify marking features. For this reason claim 21 and dependent claims 22 – 29 are patentable.

Claim 31 features a method of controlling the marketing resources of a site having a

real-time user interface during a visit to the site by a particular user. The method provides a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is provided for correlating observed characteristics of each one c a set of users with a set of adaptable marketing features. The characteristics provide at least one of: (a) user attributes or (b) user preferences. The data mining engine is trained with a set of training data from the user database by clustering the users in the data base into segments of users with similar characteristics. A set of user attributes are input to the data mining engine for a particular user and, in response thereto, the data mining engine provides a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes. The subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes.

The patent to Thearling neither shows nor suggests the features of claim 31 and therefore this claim is patentable. Claims 32 – 39 and 41 – 50 depend from claim 31 and are also allowable.

Claim 51 features a marketing management system that includes a data warehouse for storing a user database that correlates individual users with observed characteristics comprising at least one of user attributes and user preferences and with observed responses to a set of marketing features. A profiler comprising a data mining engine is constructed with training data comprising the user database. A personalization system tags individual users with labels from which user characteristics may be inferred. A personalized application component responds to the profiler and to the personalization system and correlates a user with a subset of the marketing features based upon the user's characteristics. The personalized application component includes a real-time user interface with the user; and a feedback component for capturing observed responses of the user to the marketing campaign through the user interface and feeding them to the data warehouse for processing by the data mining engine of the profiler.

Claim 51 is based on claim 53 as originally filed. This claim was rejected as being anticipated by US patent no. 6,334,110 to Walter et al. The '110 patent concerns a system and method for analyzing customer behavior at the time the behavior occurs. At column 7

the Willard '110 patent defines the process of step 340 of customer interaction. Quoting from Willard, "In step 340, when Willard or anyone else from his temporally defined community enters the web store at the right time, the system dynamically generates an advertisement about the skiers baby carrier that is showed to the customer." The response to the campaign is scored based on the response but is not fed back to the data mining engine for updating the profile of the user. Claim 51 and dependent claim 52 are therefore allowable over the prior art cited by the Examiner.

Claim 54 recites a marketing management system including a data warehouse storing a user data base correlating individual users with observed characteristics comprising at least one of user attributes and user preferences. A profiler includes a data mining engine constructed with training data from the user data base. A personalization system tags individual users with labels from which user characteristics may be inferred. A marketing management console responds to the profiler and to the personalization system to correlate a set of user characteristics selected based upon a product which is to be marketed in the marketing campaign with a subset of the users in the user data base having a maximum probability of favorable response to the marketing campaign directed toward the set of user characteristics in accordance with the training data. A feedback component captures observed responses to the marketing campaign and feeds them to the data warehouse for processing by the data mining engine of the profiler. The structure of claim 54 is neither shown nor suggested in the prior art cited by the Examiner. Walter neither shows nor suggests the features of claim 54 wherein the results of user interaction are handled by a feedback component that captures observed responses to the marketing campaign and feeds those responses back to the data warehouse for further processing. The reference to the '110 patent to column 4, lines 13 to 18 neither shows nor suggests these features of the claim.

Claims 58 – 60 recite machine readable medium having instructions for performing the method steps of claims 1, 21, and 31 respectively and are neither shown nor suggested by the art cited by the Examiner.

Claim 61 features a method for managing a marketing campaign that includes providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data. A user database is

provided for correlating observed characteristics of each one of a set of users with a set of adaptable marketing features. The characteristics include (a) at least one of the user's attributes, or (b) at least one of the user's preferences. The data mining engine is trained with a set of training data that includes the user database. A predetermined characteristic is first input to the data mining engine that pertains to the marketing campaign. In response thereto, the data mining engine provides a subset of the users in the data base having the highest correlation to the characteristic. A set of user attributes is then input to the data mining engine from the subset of the users, and, in response thereto, the data mining engine provides a subset of the adaptable marketing features having the highest correlation to the set of user attributes. The method then monitoring observed responses to the marketing campaign cycle and updates the user database based upon the observed responses. Subsequent to this update the method repeats the first and second inputting steps to obtain an updated subset of users and an updated subset of marketing features.

The features of the invention recited are neither shown nor suggested in the Thearling patent and this claim is patentable. At page 30 of the office action, the Examiner admits claim 63 (on which present claim 61 is based) is not disclosed by Thearling but that the features of claim 63 would be obvious without practicing this method "refines and improves the effectiveness of the marketing campaign". This is a statement of desired result without a teaching of how to achieve that result and as such is not a legitimate basis of rejection.

Claims 62 and 64 depend from allowable claim 61 and are also allowable.

All claims presently pending in this application are in condition for allowance and a prompt notification of allowance is requested.

Respectfully Submitted,

Stephen J. Schultz, Reg no. 29,108

Attachment: **Claims and Specification with bracketing and underlining**.

Addendum showing changes with bracketing and underlining

Replace the paragraph at page 9, line 10 with the following:

With reference to FIG. 1, an exemplary system for implementing the invention includes a general purpose computing device in the form of a conventional personal computer [120,] including a processing unit [1]21, a system memory [1]22, and a system bus [1]23 that couples various system components including the system memory to the processing unit [1]21. The system bus [1]23 may be any of several types of bus structures including a memory bus or memory controller, a peripheral bus, and a local bus using any of a variety of bus architectures. The system memory includes read only memory (ROM) [1]24 and random access memory (RAM) [1]25. A basic input/output system [1]26 (BIOS), containing the basic process that helps to transfer information between elements within the personal computer [120], such as during start-up, is stored in ROM [1]24. The personal computer [120] further includes a hard disk drive [1]27 for reading from and writing to a hard disk, not shown, a magnetic disk drive [1]28 for reading from or writing to a removable magnetic disk [1]29, and an optical disk drive [1]30 for reading from or writing to a removable optical disk [1]31 such as a CD ROM or other optical media. The hard disk drive [1]27, magnetic disk drive [1]28, and optical disk drive [1]30 are connected to the system bus [1]23 by a hard disk drive interface [1]32, a magnetic disk drive interface [1]33, and an optical drive interface [1]34, respectively. The drives and their associated computer-readable media provide nonvolatile storage or computer readable instructions, data structures, program modules and other data for the personal computer [120]. Although the exemplary environment described herein employs a hard disk, a removable magnetic disk [1]29 and a removable optical disk [1]31, it should be appreciated by those skilled in the art that other types of computer readable media which can store data that is accessible by a computer, such as magnetic cassettes, flash memory cards, digital video disks, Bernoulli cartridges, random access memories (RAMs), read only memories (ROM),and the like, may also be used in the exemplary operating environment.

Replace the paragraph at page 10, line 13 with the following:

A number of program modules may be stored on the hard disk, magnetic disk [1]29, optical disk [1]31, ROM [1]24, or RAM [1]25, including an operating system [1]35, one or more application programs [1]36, other program modules [1]37, and program data [1]38. A user may enter commands and information into the personal computer [120] through input devices such as a keyboard [1]40 and pointing device [1]42. Other input devices (not shown) may include a microphone, joystick, game pad, satellite dish, scanner, or the like. These and other input devices are often conne4cted to the processing unit [1]21 through a serial port interface [1]46 that is coupled to the system bus, but may be connected by other interfaces, such as a parallel

port, game port or a universal serial bus (USB). A monitor [1]47 or other type of display device is also connected to the system bus [1]23 via an interface, such as a video adapter [1]48. In addition to the monitor, personal computers typically include other peripheral output devices (not shown), such as speakers and printers.

Replace the paragraph at page 11, line 4 with the following:

The personal computer [120] may operate in a networked environment using logical connections to one or more remote computers, such as a remote computer [1]49. The remote computer [1]49 may be another personal computer, a server, a router, a network PC, a peer device or other common network node, and typically includes many or all of the elements described above relative to the personal computer [120], although only a memory storage device [1]50 has been illustrated in Fig. 1. The logical connections depicted in FIG. 1 include a local area network (LAN) [1]51 and a wide area network (WAN) [1]52. Such networking environments are commonplace in offices, enterprise-wide computer networks, intranets and Internet.

Replace the paragraph at page 11, line 13 with the following:

When used in a LAN networking environment, the personal computer [120] is connected to the local network [1]51 through a network interface or adapter [1]53. When used in a WAN networking environment, the personal computer [120] typically includes a modem [1]54 or other means for establishing communications over the wide area network [1]52, such as the Internet. The modem [1]54, which may be internal or external, is connected to the system bus [1]23 via the serial port interface [1]46. In a networked environment, program modules depicted relative to the personal computer [120], or portions thereof, may be stored in the remote memory storage device. It will be appreciated that the network connections shown are exemplary and other means of establishing a communications link between the computer may be used.

In the claims:

1. (Amended) A method for managing a marketing campaign, comprising:

[Providing] providing a data mining engine capable of being trained with training data; and capable thereafter of performing [inference] inferences relative to the training data and on [future (new)] additional data;

[Providing] providing a user database defining the observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user data base by clustering the user database into different segments of users distinguished by different states of a characteristic;

inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic by determining which of the segments found during clustering of the user data base has the highest statistical correlation to the predetermined characteristic.

2. (Amended) The method of Claim 1 wherein inputting to the data mining engine comprises inputting a predetermined set of characteristics pertaining to the marketing campaign.

3. (Amended) The method of Claim 2 wherein the predetermined set of characteristics [comprise] comprises a predetermined set of user attributes.

4. (Amended) The method of Claim 3 wherein the predetermined set of [uses] user attributes constitute user attributes likely to pertain to a product to which the marketing campaign is directed.

5. (Amended) The method of Claim 4 further comprising:

determining in the data mining engine a set of prevalent attributes of the subset of users;

defining a target [data base] database of users and determining in the data mining engine a target subset of users in the target data base statistically correlated to the set of prevalent attributes.

6. (Amended) The method of Claim 5 wherein the target database comprises the user [data base] database with which the data mining engine has been trained.

7. (Amended) The method of Claim 5 wherein the target [data base] database

comprises an additional [data base] database not included in the user database, the additional data base defining characteristics of a set of new users.

9. (Amended) The method of Claim 8 further comprising:

forming a focused group of the target subset of users whose observed response was a particular type of response;

determining, in the data mining engine, a group of prevalent characteristics of the focused group of users;

defining a [data base] database to be mined and determining, in the data mining engine, a new set of users in the [data base] database to be mined whose characteristics are statistically correlated with the group of prevalent characteristics.

10. (Amended) The method of Claim 9 wherein the [data base] database to be mined comprises the user [data base] database with which the data mining engine was trained.

11. (Amended) The method of Claim 9 wherein the [data base] database to be mined comprises the target data base of users.

12. (Amended) The method of Claim 9 wherein the [data base] database to be mined comprises a new [data base] database not included in either the user data base nor in the target user [data base] database.

19. (Amended) The method of Claim [18] 1 wherein clustering comprises:

providing with a visualization tool a tabulation of characteristics of each cluster with the probability of each characteristic in the cluster,

labeling each cluster with a statistically predominant characteristic thereof ii accordance with the tabulation.

21. (Amended) A method of personalizing marketing resources, comprising:

providing a data mining engine capable of being trained with training data and

capable thereafter of performing [inferencing] inferences relative to the training data;

providing a user data base correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user data base by clustering the users in the database into segments of users with similar characteristics;

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, (b) a particular group of users;[,] and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes .

31. (**Amended**) A method of controlling the marketing resources of a site having a real-time user interface during a visit to the site by a particular user, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing [inferencing] inferences relative to the training data;

providing a user [data base] database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) user attributes, (b) user preferences;

training the data mining engine with a set of training data comprising the user [data base] database by clustering the users in the data base into segments of users with similar characteristics ;

inputting to the data mining engine a set of user attributes of the particular user and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein

the subset of marketing features is determined based upon the preferences of the

segments statistically correlated to the set of user attributes..

41. (**Amended**) The method of Claim [41] 31 wherein inputting is preceded by determining the attributes of the particular user.

44. (**Amended**) The method of Claim 41, wherein determining comprises:

clustering the users in the user data base into different segments of users having similar characteristics relative to responses to different ones of the marketing features;

observing characteristics of the particular user through [the] a real-time user interface of the site;

assigning the particular user to at least one of the segments based upon the characteristics observed through the interface.

47. (**Amended**) The method of Claim 46 further comprising:

comparing a distribution of the observed responses across the marketing features of the presentation to corresponding distributions in different ones of the segments so as to detect any errors in the assignment of the particular user to a segment; and

correcting the assignment of the user to a different segment in response to the detection of an error.

51. (**Amended**) A marketing management system, comprising:

a data warehouse storing a user [data base] database correlating individual users with observed characteristics comprising at least one of user attributes and user preferences and with observed responses to a set of marketing features;

a profiler comprising a data mining engine constructed with training data comprising the user [data base] database;

a personalization system for tagging individual users with labels from which user characteristics may be inferred; and

a personalized application component responsive to the profiler and to the personalization system and which correlates a user with a subset of the marketing features based upon the user's characteristics, said personalized application component comprising:

a real-time user interface with the user; and

a feedback component for capturing observed responses of the user to the marketing campaign through the user interface and feeding them to the data warehouse for processing by the data mining engine of the profiler.

54. (**Amended**) A marketing management system, comprising:

a data warehouse storing a user data base correlating individual users with observed characteristics comprising at least one of user attributes and user preferences;

a profiler comprising a data mining engine constructed with training data comprising the user data base;

a personalization system for tagging individual users with labels from which user characteristics may be inferred; [and]

a marketing management console responsive to the profiler and to the personalization system and which correlates a set of user characteristics selected based upon a product which is to be marketed in the marketing campaign [identified for a marketing campaign] with a subset of the users in the user data base having a maximum probability of favorable response to the marketing campaign directed toward the set of user characteristics in accordance with the training data; and

a feedback component for capturing observed responses to the marketing campaign and feeding them to the data warehouse for processing by the data mining engine of the profiler .

58. (**Amended**) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing [inference] inferences relative to the training data; and on [future (new)] additional data;

providing a user database defining the observed characteristics of each one of a set of users, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user database by clustering the user data base into different segments of user distinquished by different states of a characteristic;

inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic by determining which of the segments found during clustering of the user data base has the highest statistical correlation to the predetermined characteristic.

59. (**Amended**) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing [inferencing] inferences relative to the training data;

providing a user data base correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user data base by clustering the users in the database into segments of users with similar characteristics;

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, (b) a particular group of users;[,] and, in response thereto,

obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes;

and wherein the subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes.

60. (**Amended**) A machine-readable medium having instructions stored thereon for execution by a processor to perform a method comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing [inferencing] inferences relative to the training data;

providing a user data base correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) user attributes, (b) user preferences;

training the data mining engine with a set of training data comprising the user [data base] database by clustering the users in the database into segments of users with similar characteristics;

inputting to the data mining engine a set of user attributes of the particular user and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the segments has characteristics that are statistically correlated with the set of user attributes; and wherein

the subset of marketing features is determined based upon the preferences of the segments statistically correlated to the set of user attributes.

61. (**Amended**) A method for managing a marketing campaign, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing [inferencing] inferences relative to the training data;

providing a user [data base] database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the characteristics comprising at least one of: (a) at least one of the user's attributes, (b) at least one of the user's preferences;

training the data mining engine with a set of training data comprising the user [data base] database;

first inputting to the data mining engine a predetermined characteristic pertaining to the marketing campaign and, in response thereto, obtaining from the data mining engine a subset of the users in the data base having the highest correlation to the characteristic; [and]

second inputting to the data mining engine a set of user attributes of the subset of the users, and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes;

monitoring observed responses to the marketing campaign cycle and updating the

user database based upon the observed responses; and

repeating the first and second inputting to obtain an updated subset of users and an updated subset of marketing features.

64. (**Amended**) The method of Claim [63] 61 further comprising:

conducting a subsequent marketing campaign [cycles] cycle based upon the updated subsets of users and marketing features.